0009

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 16, 2001

TO: [redacted] File

FROM: Wayne H. Western, Team Lead

RE: Response to the Midterm Review, Lodestar Energy Inc., Horizon Mine, C[redacted]0-MT99-3

SUMMARY:

In accordance with R645-303-211, the Division reviews each active permit during its midterm. The review was initiated at the midpoint of the permit term on 3/23/99 for the Horizon Mine. However, because of overlapping problems with enforcement with Division Order 99B, the midterm review was put on hold for nearly a year. The Midterm Review for the Horizon Mine commenced again when the latest response from Lodestar Energy, Inc. was received on April 25, 2000. The midterm was reviewed and found deficient. The permittee resubmitted the midterm on January 12, 2001. The midterm review includes the following:

1. An AVS check to ensure that Ownership and Control information is current and correct.

2. A review of the plan to ensure that the requirements of all permit conditions, division orders, notices of violation abatement plans, and permittee-initiated plan changes are appropriately incorporated into the plan document.

3. A review of the applicable portions of the permit to ensure that the plan contains commitments for application of the best technology currently available (BOCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.

4. An evaluation of the reclamation bond to ensure that coverage adequately addresses permit changes approved after permit approval.

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The redline-strike-out pages provided in this response do not fit into the approved MRP. The wording in the midterm response does not flow correctly from one page to the next. Prior to approval the permittee must give the Division copies of the midterm response that can be directly incorporated into the MRP.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must be provided the following in accordance with:

R645-301-121.300, The Permittee must give the Division copies of the midterm response that can be directly incorporated into the approved MRP.

TECHNICAL ANALYSIS:

OPERATION PLAN

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Coal Mine Waste

The Permittee has committed not to bring any coal mine waste to the surface. If the Permittee finds that mining conditions are different that anticipated and that coal mine waste must be brought to the surface they will get Division approval before bring the coal mine waste to the surface. The Permittee is also authorized to ship coal mine waste to the Sunnyside Cogeneration facility.

Excess Spoil

The Permittee states, on pages 3-10 and 3-11 that there will not be any excess spoil associated with this permit. However, on page 3-10, he states that sediment pond, ditch, and other clean out material will be placed in two areas as shown on the map or the company may elect to take the material to ECDC. The Permittee also stated that they will take samples of the clean out material as dictated by the intended use and approved by the Division.

Findings:

The information provided meets the minimum regulatory requirements of this section.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

The boundaries of the disturbed area, as well as those of its component areas of previous and proposed disturbance, are shown adequately on Plates 3-1, 3-6, and 3-7.

Mining Facilities Maps

The locations and approximate dimensions of all mine facilities are shown on Plate 3-1--Surface Facilities. Included on this map are all buildings, portals, fans and earthen structures (pads, cuts and embankments), both of the large main drainage bypass culverts, the mine supply substation adjacent to the main portals, the large main substation at the mouth of the canyon, the Main Haul Road, the Hiawatha Fan Portal Access Road, the conveyor from the mine, the coal storage and loading facilities, the topsoil storage area and the sediment pond. This plate was certified in 1996, after its latest revision, by Richard B. White, a professional engineer registered in the state of Utah. The Permittee, on pages 3-4 and 3-5, corrected the deficiencies by correcting the legends. Such corrections were made on the coal storage area on map, Plate 3-1. Also, such corrections were made on the snow storage area map, Plate 3-1.

Design details of the sediment pond are shown on Plate 7-6--Sedimentation Pond Detail Map. This plate was certified in 1996 by Richard B. White, a professional engineer registered in the state of Utah.

Mine Workings Maps

The location and extent of all known abandoned underground mine workings, including mine openings to the surface within the proposed permit and adjacent areas, are shown on Plate 3-3--Five Year Mine Plan. There are no active underground mines and there has been no surface mining within the permit and adjacent areas.

Monitoring and Sample Location Maps

Both geologic and groundwater information were obtained from test borings done at sites designated LMC-1, LMC-2, LMC-3, and LMC-4. The locations of these sites are shown on Plate 6-1--Geology and Plate 7-1--Water Monitoring Locations.

Information on water quality and quantity was obtained from monitoring stations designated 1, 2, 3, 4, 5, 6, and 7. The elevations and locations of these sites are shown on Plate 7-1--Water Monitoring Locations.

Findings:

The information provided meets the minimum regulatory requirements of this section.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The Permittee states in Section 3.5.4 of the submittal the following about restoring the site to the approximate original contours:

> Approximate Original Contour. The area of the Horizon surface facilities was disturbed by previous mining activities. No pre-mining topographic maps of the area are known to exist. The reclamation plan has been designed to backfill and grade the site to achieve the assumed approximate original contour (i.e., to blend into the surrounding topography) and eliminate highwalls associated with the Horizon Mine.

The requirements to achieve the approximate original contour are couched in terms of the backfilling and grading requirements. The mining and reclamation plan must provide the basis for determining whether the proposed backfilling and grading plan will (1) minimize off-site effects; (2)

achieve a final surface configuration that closely resembles the general surface configuration to the land before mining; (3) provide a subsurface foundation for a vegetative cover capable of stabilizing the surface from erosion and (4) support the postmining land use.

The major off-site impacts that the Division is concerned about are erosion and water quality. The Division usually assumes that those off-site impacts are minimized if the hydrologic requirements are met. Those requirements will be addressed in other sections of the TA.

The reclaimed surface should closely resemble the general surface configuration to the land before mining. While the ideal reclamation plan would have premining and postmining contours identical to each other, that situation is not usually practical or desirable. The term AOC does not mean that the reclaimed surface has the same elevation as the premining surface. Rather AOC means that the reclaimed surface will blend into the surrounding area. Such a surface will have slope lengths and gradients similar to those in the surrounding areas and ensure effective erosion control.

The Horizon Mine is in a steep narrow canyon. The permittee has limited options for reclaiming the site because surrounding steep slopes. Some reclaimed slope will have 1.5 H to 1 V grades. Those steep slopes can make reclamation work more difficult and limit reclamation options.

The cross sections on Plate 3-7a show the existing (operational) grades and the proposed reclamation grade. The permittee does not show the location of the disturbed area boundaries on the cross sections. That information is needed by the Division to determine extent of possible reclamation activities.

The cross sections in Figure 3-6 show the portal face ups and how they will be reclaimed. The highwalls are shown to be reclaimed by placing fill in front of the lower portion of the highwalls and then cutting material from the upper sections of the highwalls. The proposed cuts and fills show that parts of the highwalls will be eliminate.

The cross sections on Figure 3-6 are not shown on Plate 3-7 or an equivalent map. The location of the disturbed area boundaries and the extent of the highwall is not shown on Figure 3-6. Without that information, the Division cannot make a finding that the highwalls will be completely eliminated. Therefore, the permittee must give the Division the following:

- Cross sections referenced to the existing and proposed reclaimed surfaces
- Cross sections that show the disturbed area boundaries
- The highwall boundary (the highwall boundary is considered the area disturbed to construct the portal face up area.)

On page 3-44 the permittee states the following:

However, if field conditions indicate that all available materials are not sufficient to eliminate the existing highwalls without exceeding the performance criteria outlined in

the proceeding paragraph, small sections of highwall may be retained. Division approval will be obtained before any highwalls are retained. If it is necessary to retain any pre-existing highwalls at the site the analyses will be performed to show that the retained highwalls are stable and compatible with the postmining land use. Specifically, this analysis will address the requirements of Section R645-301-553.600 through R645-553.650 of the regulations.

R645-301-553.600 through R645-553.650 refer only to for pre-SMCRA highwalls. If the permittee proposes to retain highwall remnants then the permittee must show that the highwalls were created prior to the passage of SMCRA, August 3, 1977.

The cut and fill quantities are approximately equal. The Permittee estimates that 13,810 cubic yards of cut material are available and 13,476 cubic yards of fill material are needed. The cut to fill ratio is 1.02. Therefore, the permittee has enough fill material to complete reclamation.

No spoil piles exist in the disturbed areas. Therefore, the permittee has met those requirements.

The Division considers that the permittee has met the requirements for providing a subsurface foundation for a vegetative cover capable of stabilizing the surface from erosion if the soils and vegetation requirements are met.

The Division's main concern with the relationship between AOC and the postmining land use involves drainage restoration. Jewkes Creek will be restored so that it blends into the upstream and downstream sections. The ephemeral stream in the pad area will also be restored so that it blends into the upstream drainage and the connection into Jewkes Creek. The slide slopes have no major flow channels, therefore runoff from those areas flows overland until it enters a permanent drainage.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must be provided the following in accordance with:

R645-301-542.200, The Permittee must show the location of the cross sections Figure 3-6 on Plate 3-7 or an equivalent map. The Division needs that information to make a finding about highwall elimination.

R645-301-542.200, Show the location of the disturbed area boundaries for each cross sections shown on Plate 3-7a and Figure 3-6 must be shown. The Division needs that information to make a finding about AOC compliance.

R645-301-542.200, Show the highwall boundary on the cross sections on Figure 3-6. The highwall boundary is usually considered the area disturbed when the portal

face up areas were constructed. The Division needs this information to make a finding about highwall eliminate.

R645-301-542.200 and R645-301-521.190, The Permittee must be consistent about describing the existence of highwalls. On page 3-40 section Elimination of Highwalls, Spoil Piles and Depressions the permittee states that all highwalls will be eliminated yet in the next sentence the permittee states that no highwalls exist on the current disturbed area. Note: The same inconsistency is found in other section of the submittal.

R645-301-553.600 and R645-301-521.190, The Permittee must show that the highwalls associated with the Horizon Mine were created before the passage of SMCRA, August 3, 1977, or the permittee must remove all reference to highwall remnants being retained after final reclamation.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

In the Slope Stability section of the Backfilling and Grading section of the submittal the Permittee states that all reclaimed slopes will have a safety factor of 1.3 or greater. In addition all reclaimed slopes will have slopes that do not exceed the angle of repose, which is assumed to be between 30° to 35°. A discussion about the angle of repose is located on in the Slope Stability section however, the Permittee did not include a slope stability analysis for the reclaimed slopes in the submittal or MRP. The Permittee must include the slope stability analysis so that the Division can analysis the report.

Appendix 3-3 contains information of slope stability studies for the operational phase of mining. The slopes analyzed were the mine bench, the access road and the sediment pond. All those slopes were constructed for the operational phase of mining and are scheduled to be reclaimed. Therefore, the permittee must give the Division slope stability analysis for the critical reclaimed slopes.

The Permittee states that no coal seams are currently exposed in the disturbed area. However, if any coal seams were exposed during backfilling and regrading then the coal seams would be covered with 4 feet of nontoxic and noncombustible materials. On page 3-40 section Elimination of Highwalls, Spoil Piles and Depressions the permittee states that access to the coal seam are by means of shallow angle slopes that drop 6 feet to 12 feet before intercepting the coal seams. To verify those claims, the Division needs the Permittee to show the location of the coal seams on the reclamation cross sections.

The acid- and toxic- forming materials that have been identified in the disturbed area are buried waste materials (coal mine waste0 from previous mining operations. See Plate A in Appendix 3-8 and Plate 5.5.

Section 3.3.2.5 of the existing MRP discusses the coal mine waste buried within the operations pad. The existing MRP indicates that approximately 2500 - 2700 CY of waste are buried 4 feet deep within the pad (locations should be shown on a plate in Appendix 3-8 and on Plate 5-5). This information is restated in the submittal, page 3-44, under "Acid and Toxic Forming Materials." The plate in Appendix 3-8 is entitled Sweets Canyon, Pond Utilities. It did not have the information mentioned on coal mine waste burial locations.

Plate 5-5 could not be located in the submittal or the MRP. However, the location of buried coal mine waste is shown on Plate 5-7.

On Plate 3-7 the location of buried coal mine waste is shown to be in or near the Portal Canyon drainage. drainage burial locations are indicated on the recently submitted Plate 3-7, Reclamation Topography. This map shows coal mine waste buried very close to the drainage of Portal Canyon. And, it appears from this map and Plate 3-7A, Post Mining Cross-Sections, that the grading operations in areas G-G', H-H' and J-J' will uncover coal mine waste. The permittee needs to show the location of the coal mine waste on Plate 3-7A so that the Division can determine if the coal mine waste will be uncovered during reclamation.

R645-301-746.120 requires that all coal mine waste be placed in a manner to minimize adverse effects of leachate and surface water runoff. The Division is concerned that coal mine waste in or near the Portal Canyon drainage will be exposed. Therefore, the permittee needs to either remove the coal mine waste from the drainage area or show that the surface water will not be contaminated

The Permittee does not propose to leave any cut and fill terraces. Nor do they propose to leave any settled and revegetated fills.

The highwall issues are cover in the AOC section of this TA.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provided the following in accordance with:

R645-301-553.130 and R645-301-121.200, Include the slope stability analysis for the reclaimed slopes. The slope stability studies in Appendix 3-3 are for the operational not reclaimed slopes.

R645-301-553.300 and R645-301-542, The Permittee will address how the coal seams will be covered during final reclamation. Also, the Permittee will show the location of the coal seams on the cross sections.

R645-301-746.120, The permittee will either remove all coal mine waste from in or near the Portal Canyon drainage or show that the buried coal mine waste will not have an adverse effect of surface water runoff. The Division is concerned that over time erosion in the drainage could exposed the buried coal mine waste.

R645-301-553.252 and R645-301-542, The Permittee will show on Plate 3-7a the location of all coal mine waste before and after final reclamation.

R645-301-121.200, The Permittee must either give the Division a copy of Plate 5-5 or not refer to that plate.

RECOMMENDATIONS:

The Division should deny the submittal. The permittee needs to address the deficiencies that are listed in this memo before the midterm can be completed.

sm
O:\007020.HZN\Final\whwMT99-3.wpd